



EPA Proposes Change to Cleanup Plan

West KL Avenue Landfill Superfund Site
Kalamazoo, Michigan

September 2002

Opportunities for Public Involvement

Public Meeting

EPA will hold a public meeting to explain the proposed change to the cleanup plan for the West KL Avenue Landfill Superfund Site to the residents of Oshtemo Township. Oral and written comments will be accepted at the meeting. The meeting is scheduled for:



Date: Oct. 2, 2002

Time: 7 p.m.

Place: Oshtemo Township Hall
7275 W. Main St.
Kalamazoo, Mich.

Public Comment Period

EPA will accept written comments on the proposed change during a 30-day public comment period:

Sept. 17, 2002 through
Oct. 16, 2002.

Introduction

Changes are being proposed to the cleanup plan for the West KL Avenue Landfill Superfund Site. Based on new information obtained by U.S. Environmental Protection Agency during studies on the site (called pre-design studies), the Agency is recommending changes to what is called the “limited action portion” of the plan.

EPA is proposing this change as part of its public participation responsibilities under the **Comprehensive Environmental Response, Compensation and Liability Act**, better known as the Superfund law.¹ (Words in **bold** are defined in the glossary on Page 7.)

Public comment on the proposed change is very important. EPA, in consultation with the Michigan Department of Environmental Quality, could make further modifications – or choose another plan altogether – based on comments from the public. All documents concerning the site, including this proposed change, are available to the public at the Oshtemo branch of the Kalamazoo Public Library. They are kept in what is termed an “information repository.” See Page 5 for the library’s address.

Site Description and History

The West KL Avenue Landfill site is an 87-acre landfill. It operated as a private dump from about 1950 until 1960, when Oshtemo Township leased the property for use as a sanitary landfill. In 1968, Kalamazoo County bought the site for a countywide sanitary landfill. The county disposed of waste there – including commercial and industrial waste – until 1979. At that time, MDEQ (then known as Michigan Department of Natural Resources) ordered it closed because contamination was detected in several nearby water wells.

That same year, the county installed 11 new residential wells reaching into a deeper **aquifer**. They replaced contaminated wells in the area along KL Avenue and Fourth Street. The county and Oshtemo Township also installed a water main along KL Avenue to provide municipal water to several affected residents who requested it.

In 1980, the township placed a cover, or “cap” over the landfill. Most of the cap was merely soil. In flatter areas, however, it was a mixture of soil and a type of clay called bentonite. That helped keep most of the rain and other runoff from seeping into the waste material, then further contaminating the underlying ground water.

¹Section 300.435(c)(2)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300.435(c)(2)(ii)) and Section 113 (k)(2) and 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9613(k)(2) and 9617) require publication of a notice describing the proposed change in the cleanup plan. Information supporting the change, such as the pre-design studies and the recent sampling results, must also be made available to the public for comment. This fact sheet is a summary of information contained in the Pre-Design Study Report for the West KL Avenue Landfill site. Please consult that document for more detailed information.

EPA placed the site on its National Priorities List in 1982. The sites on this list are the nation's most hazardous waste sites, eligible for cleanup under Superfund. EPA thoroughly analyzed the soil and ground water to determine the nature and extent of contamination, as well as potential risks from exposure to it. As part of the study, EPA officials evaluated several different ways to clean up the site.

1990 Record of Decision

Based on its study of the site, EPA selected a cleanup plan on Sept. 28, 1990. That document, known as a "record of decision," addressed both the waste and the ground-water contamination, both of which posed an unacceptable risk to human health and the environment. Here are the details of that plan:

Ground Water

*Limited Action Portion**

- ground-water monitoring
- deed restrictions and the proper abandonment of closed residential wells

Ground-Water Pump and Treat Portion

- ground-water extraction followed by treatment of the ground water through enhanced **bioremediation**. Once treated to meet the ground-water cleanup standards, the ground water would be reinjected into the shallow aquifer, piped to the city of Kalamazoo publicly owned treatment works, or discharged into an on-site infiltration pond.

**This "limited action" portion is the portion of the cleanup plan that EPA is proposing to change.*

Landfill Contents

Limited Action Portion

- installing a fence around the site
- placing deed restrictions on the landfill property

Landfill Containment Portion

- placing a multi-layer cap over the site which would consist of (from bottom to top) a 2-foot thick clay layer, a 60-mil density polyethylene liner, a 12-inch drainage layer, a geotextile filter fabric, a 2-foot layer of clean fill for frost protection and drainage, and a 6-inch layer of vegetated topsoil. Gas venting and monitoring will be incorporated into the cap design.

In November 1992, the KL Avenue Group – made up of parties alleged to be at least partly responsible for the contamination – signed a legal settlement with EPA. As part of this agreement, called a "consent order," KL Avenue Group agreed to implement EPA's chosen cleanup plan. It also agreed to study the best ways to design an effective ground-water treatment system, and that work continues. These studies are called the pre-design studies. Over the last several years, the focus has been on how natural processes within the landfill and ground-water system might effectively clean up the pollution over time. That could eliminate the need for additional caps or treatment systems.

These studies have shown that some contaminants, such as **acetone** – used in lacquer, varnish, paint remover and nail polish remover – have been eliminated. Unfortunately, other pollutants are unaffected.

Current Conditions/Reason for Proposed Change to Remedy

None of the construction proposed in the 1990 cleanup plan has been done, but the area is completely fenced off. Grass, shrubs and trees have been planted over most of the 1980 soil cap. Vents have been installed to manage gases generated by the decomposing waste below. But the cap does not meet requirements set by EPA in its 1990 plan because too much moisture can seep through the cap into the landfill waste, then into the ground water, and eventually off the site.

In fact, this has caused a mass of contaminants to move through the ground-water system as far west as Dustin Lake. Because of this mass, or "**plume**," the county has connected a number of homes to the municipal water supply. All private wells in the path of the ground-water flow are being monitored.

As previously mentioned, acetone and a few other contaminants have been eliminated from the plume naturally. Others, such as **benzene** and **tetrahydrofuran**, are still in the ground water but, it appears, are not moving. Experts still need to determine if the plume itself is stable, but this may be difficult for a variety of factors.

For the last several years, residents along KL Avenue near Dustin Lake have had elevated levels of contaminants similar to those at the site. More study – currently being done by the KL Avenue Group – is needed to determine if the plume is expanding in this area. Experts may not be

able to identify the western edge of the plume because it is under Dustin Lake. Samples taken by KL Avenue Group and MDEQ show no contamination in the lake itself, although it has been found near the lake. Low levels of contaminants have been found, however, in private wells along Second Street, but the source cannot be accurately determined.

The county has restricted installation of new wells in a half-mile radius of the contaminated area, but some existing wells are close to the plume, and are in the ground-water system flow. If the plume continues to move west, these wells could be at risk.

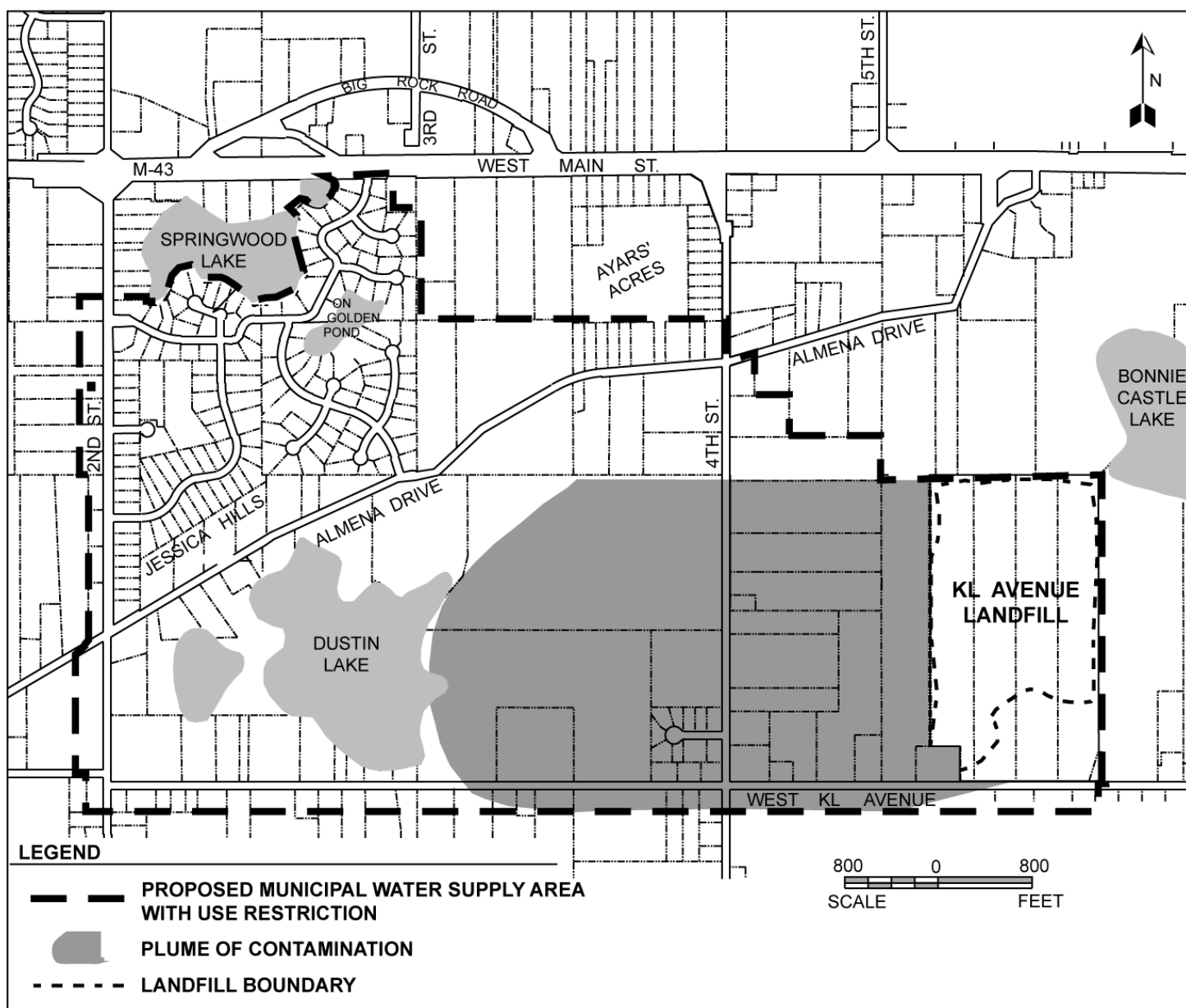
This is why EPA has proposed the change to its 1990 cleanup plan.

Homes located in the “Proposed Municipal Water Supply Area” (see map below) will be affected by the change.

Summary of Site Risks

Through a risk assessment done at the site, EPA has determined that people drinking the contaminated ground water are at risk. A copy of the risk assessment is available in the information repository at the library.

EPA's Proposed Municipal Water Supply Area Map



Limited Action Ground-Water Alternatives

After examining the most current conditions at the site, EPA determined that it is appropriate to propose a change in the cleanup plan to address the potential risks to ground-water users in the path of the flow of the ground water coming from the landfill. The proposed change affects only the limited action portion of the 1990 ROD cleanup plan. The 1990 ROD cleanup plan will remain unchanged for all other parts of the remedy. The evaluation takes into consideration new site information pertaining to ground-water contamination and current ground-water use. The alternatives evaluated for the ground-water use are summarized below:

Alternative 1-No Action

Estimated Cost: \$0

Estimated Time to Implement: None

Evaluation of the no-action alternative is required by law to give EPA a basis for comparison. Under Alternative 1 there would be no action taken. There would be no restrictions placed on ground-water use.

Alternative 2-1990 ROD Remedy - Limited Action

Estimated Cost:

\$145,600

Estimated Time to

Implement: Minimum of

three months from start of construction

Limited Action Portion of the
Ground-Water Remedy
Selected in 1990

This portion of the alternative includes continued ground-water monitoring, deed restrictions and the proper abandonment of closed residential wells.

Alternative 3 -Limited Action with Municipal Water Supply

Estimated Cost:

\$469,600

Estimated Time to

Implement: Six

months

EPA's Proposed Change to the
Limited Action Portion of the
Ground-Water Remedy

This alternative would also include continued ground-water monitoring, deed restrictions, the proper abandonment of closed residential wells, and county-

implemented institutional controls on the well permitting process. However, it would also add supplying municipal water service to the homes within the area shown on the map on Page 3. This would create a buffer zone around the existing plume protecting residents in the path of the flow of the ground-water contamination should the plume move further west. This alternative includes the abandonment of the existing wells at any home connected to the municipal water supply.

Evaluation of the Alternatives

The evaluation table on Page 6 shows that Alternative 3 would protect public health and the environment. Alternative 2 and 3 are both protective in the short term, however, in the long term, Alternative 2 may not be protective should the plume move further west and affect unprotected drinking-water wells in the area. Under both Alternatives 2 and 3, there is no reduction of toxicity or mobility of the contaminants through treatment. Alternatives 2 and 3 are implementable. Ground-water use restrictions under Alternative 2 and 3 will add some administrative steps. Oshtemo Township has already indicated its willingness to implement these restrictions. Alternative 2 is less costly compared to Alternative 3. Although Alternative 1 has no cost, it is not protective and meets few other cleanup criteria. MDEQ supports Alternative 3 pending public comments and community acceptance.

The Next Step

EPA and MDEQ will consider public comments received during the public comment period before choosing a final cleanup plan for ground-water use at the West KL Avenue Landfill site. The final plan will be described in a document called the ROD amendment that will be made available for public review.

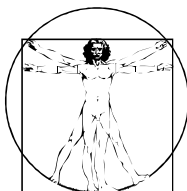
A summary of all comments and EPA's responses will be contained in the responsiveness summary section of the ROD amendment, which will be available at the information repository. (See Page 5 for the location of the information repository.)

After a final plan is chosen, the plan will be designed and implemented.

Explanation of the Nine Criteria

EPA uses the following nine criteria to evaluate the cleanup alternatives. A table comparing the alternatives against these criteria is provided on Page 6.

1. Overall Protection of Human Health and the Environment. Assessment of the degree to which the cleanup alternative eliminates, reduces or controls threats to public health and the environment.



2. Compliance with Applicable or Relevant and Appropriate Requirements. An evaluation of whether or not the alternative complies with all other state and federal regulations—environmental or otherwise.

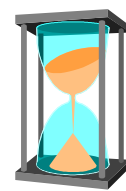
3. Long-Term Effectiveness and Permanence. The cleanup alternative is evaluated in terms of its ability to maintain reliable protection of human health and the environment over time once the cleanup goals have been met.



4. Reduction of Toxicity, Mobility, or Volume Through Treatment. An evaluation of how well a cleanup alternative reduces the harmful nature of the chemicals; the ability of the chemicals to move from the site into the surrounding area; and the amount of contaminated material.

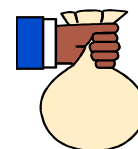


5. Short-Term Effectiveness. The length of time needed to implement a cleanup alternative is considered. EPA also assesses the risks that carrying out the cleanup alternative may pose to workers and nearby residents.



6. Implementability. An assessment of how difficult the cleanup alternative will be to construct and operate, and whether the technology is readily available.

7. Cost. A comparison of the costs of each alternative. Includes capital, operation and maintenance costs.



8. State Acceptance. EPA takes into account whether or not the state agrees with the proposed change in the cleanup plan and considers comments from the state on the documents that support the change.

9. Community Acceptance. EPA considers the comments of local residents on the proposed change in the cleanup plan presented in this fact sheet and on the documents that support the change.



Information Repository

EPA has established a West KL Avenue Landfill Superfund site information repository at the Oshtemo Branch of the Kalamazoo Public Library. The repository contains specific information related to the West KL Avenue site and general information about the Superfund cleanup process. Please visit the repository located at:

Kalamazoo Public Library
Oshtemo Branch
7265 W. Main St.
Kalamazoo, Mich.



Evaluating the Alternatives Against the Nine Evaluation Criteria

EPA evaluated the alternatives against eight of the nine evaluation criteria (see the table on Page 5 describing the nine criteria EPA uses to evaluate an alternative). The community acceptance criterion will be evaluated after public comments are received by EPA. The recommended alternative compared more favorably to the evaluation criteria than did the other alternatives. The degree to which all alternatives meet the evaluation criteria, as determined by EPA, is shown in the table below.

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
Overall Protection of Human Health and the Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Compliance with ARARs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Long-Term Effectiveness and Permanence	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reduction of Toxicity, Mobility, or Volume through Treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Short-Term Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Implementability	Not Applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cost	\$0	\$145,600	\$469,600
State Acceptance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Community Acceptance	Will be evaluated after the comment period.		

☒ = Meets Criteria

☐ = Does Not Meet Criteria

Public Comment Period

EPA has established a public comment period to give the community an opportunity to comment on the proposed change in the cleanup plan as well as the information that supports the change, such as the pre-design studies. The comment period begins on Sept. 17, 2002, and ends on Oct. 16, 2002. Written comments must be postmarked no later than Oct. 16, 2002 and should be sent to Cheryl Allen, EPA Community Involvement Coordinator. (See the back page of this fact sheet for contact information.)

Based on new information, EPA may modify the proposed change in the cleanup plan or may select one of

the other cleanup alternatives described here. Therefore, the public is encouraged to review and comment on all of the cleanup alternatives.

At the conclusion of the comment period, EPA will review all of the comments it receives before making a final decision. EPA will respond to the comments in a document called a responsiveness summary. The responsiveness summary will be placed in the information repository.



Glossary

Acetone

A common chemical used as a solvent in lacquers, varnishes, waxes, nail polish remover, paint and varnish removers, and in the production of many chemical substances, including pharmaceuticals, pesticides and lubricating oils. Prolonged or repeated contact with skin or eyes may cause irritation; prolonged inhalation may produce headaches and throat and bronchial irritation.

Aquifer

A layer of rock, sand or gravel below the ground surface where all open spaces between rock or soil grains are filled with water. Aquifers can supply usable quantities of ground water through wells and springs.

Benzene

A chemical produced as a by product of coal tar distillation, coal processing and coal coking, and widely used in the chemical and drug industries as a solvent, a constituent of motor fuels as an octane booster, and in the manufacture of many chemical compounds and rubber. A known cause of cancer, it is toxic by ingestion, inhalation or absorption. Long-term overexposure may cause leukemia, some types of cancer and a type of anemia called aplastic anemia.

Bioremediation

A cleanup process using naturally-occurring, or specially-cultivated, microorganisms to digest contaminants naturally and break them down into nonhazardous components.

Comprehensive Environmental Response, Compensation, and Liability Act

A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. The act created a special tax that goes into a trust fund, commonly known as Superfund, to investigate and clean up hazardous waste sites. Under the program, EPA can:

- pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work.
- take legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for the cost of the cleanup.

Plume

A body of contaminated ground water flowing from a specific source. The movement of ground water is influenced by such factors as local ground-water flow pattern, the characteristics of the aquifer in which the ground water is contained, and the density of the contaminants.

Tetrahydrofuran

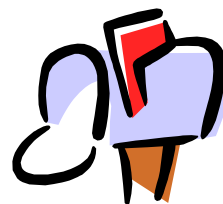
A solvent used in the manufacture of polyvinylchloride (also known as PVC). Tetrahydrofuran is moderately toxic by inhalation, ingestion or direct skin contact, and can also cause liver and kidney damage.

Mailing List

If you did not receive this fact sheet in the mail, you are not on our mailing list. If you would like to receive fact sheets, progress reports, and community meeting information for the West KL Avenue Landfill Superfund Site, please complete this form and mail to:

Cheryl Allen
Community Involvement Coordinator
Office of Public Affairs (P-19J)
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Name _____
Address _____
City _____
State _____ Zip _____
Phone _____
Affiliation _____
E-mail _____



For More Information

For more information about the public comment period, public meeting, proposed change in the cleanup plan, or any other aspects of the West KL Avenue Landfill project, please contact:

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Community Involvement Coordinator
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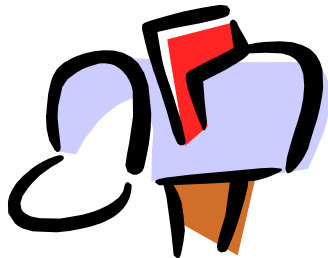
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Use This Space to Write Your Comments

Your input on the recommended change in the cleanup plan for the West KL Avenue Landfill site is important to EPA. Comments provided by the public are valuable in helping EPA select a final cleanup plan for the site.

You may use the space below to write your comments. You may hand this in at the Oct. 2, 2002, public meeting or fold and mail to Cheryl Allen. Comments must be postmarked no later than Oct. 16, 2002. If you have any questions, please contact Cheryl Allen at (312) 353-6196, or toll-free at 1-800-621-8431, Ext. 36196. Comments may also be faxed to Cheryl at (312) 353-1155 or sent via e-mail to: allen.cheryl@epa.gov

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Name _____

Affiliation

Address

City _____ State _____

Zip

West KL Avenue Landfill Site Comment Sheet

Fold, stamp, and mail

Name _____
Address _____
City _____ State _____
Zip _____

Place
Stamp
Here

Cheryl Allen
Community Involvement Coordinator
Office of Public Affairs (P-19J)
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590